Claims

1. Seat occupancy sensor, comprising at least one pressure detection device associated with a surface of a seat and a control unit for communicating with the pressure detection device, characterised in that said pressure detection device comprises a surface acoustic wave device including at least one surface acoustic wave resonator and an antenna and in that said control unit comprises an RF antenna for remotely communicating with said surface acoustic wave device.

2. Seat occupancy sensor according to claim 1, wherein said pressure detection device further comprises a sealed chamber integrated into said seat, said sealed chamber being filled with a pressure medium, and wherein said surface acoustic wave device is associated to said pressure chamber for detecting a pressure inside said pressure chamber.

3. Seat occupancy sensor according to claim 2, wherein said surface acoustic wave device is arranged inside said sealed chamber.

4. Seat occupancy sensor according to claim 2, wherein said surface acoustic wave device is arranged at a periphery of said sealed chamber and coupled to a wall of said sealed chamber.

5. Seat occupancy sensor according to any one of claims 2 to 4, wherein said pressure medium comprises a liquid or a gaseous fluid.

6. Seat occupancy sensor according to any one of claims 2 to 5, wherein said sealed chamber comprises a plurality of cavities arranged at different locations with respect to the seat surface, said cavities being interconnected with each other.

7. Seat occupancy sensor according to any one of claims 2 to 6, wherein said surface acoustic wave device comprises a first surface acoustic wave resonator adapted for pressure measurement inside the sealed chamber and a second acoustic wave resonator adapted for temperature measurement.

8. Seat occupancy sensor according to claim 7, wherein said first surface acoustic wave resonator is able to oscillate at a given frequency depending on the pressure inside the sealed chamber.

9. Seat occupancy sensor according to claim 7, wherein said second surface acoustic wave resonator is able to oscillate at a given frequency depending on the temperature inside the sealed chamber.

10. Seat occupancy sensor according to claim 1, wherein said pressure detection device further comprises a dedicated pressure sensor, said dedicated pressure sensor being electrically connected to said surface acoustic wave device so as to activate said surface acoustic wave device when said dedicated pressure sensor is triggered.

11. Seat occupancy sensor according to claim 10, wherein dedicated pressure sensor comprises a pressure sensitive switching device, said pressure sensing switching device being electrically connected to said surface acoustic wave device so as to activate said surface acoustic wave device when said pressure sensitive switching device is triggered.

12. Seat occupancy sensor according to claim 11, wherein said pressure sensitive switching device is connected in series between the surface acoustic wave resonator and the antenna.

13. Seat occupancy sensor according to any one of claims 11 and 12, wherein said pressure sensitive switching device comprises a plurality of individual pressure sensors or switches arranged at different locations with respect to the seat surface.

14. Seat occupancy sensor according to any one of claims 10 to 13, wherein said surface acoustic wave device comprises at least one acoustic wave resonator adapted for temperature measurement.

15. Seat occupancy sensor according to claim 14, wherein said surface acoustic wave resonator is able to oscillate at a given frequency depending on the temperature inside the sealed chamber.